

ABSTRACT OF THE DISCLOSURE

A modular bridge structure construction and repair system for use in new bridge construction and old bridge repair. The invention comprises a plurality of prefabricated modules which have a plurality of longitudinally extending beams and deck portions molded thereto. The modules are positioned over a plurality of girders so that longitudinal joints are formed above the girders. In the repair of an old bridge, an old section of the bridge deck is removed, and the modules are positioned on the existing girders. The modules are attached to the girders such that a shear connection is provided therebetween. Precompression may also be applied to clamp the sides of adjacent deck portions together. Various embodiments disclose this precompression and the shear connections.